**Amendments to the claims:**

This listing of claims replaces all prior versions, and listings, of claims in the application.

**Listing of claims:**

Claims 1-20 (cancelled).

21. (new): A recombinant, non-human animal comprising a non-native gene sequence coding

   for golgin-245 or a variant thereof, the animal being obtainable by:

   (i)    providing a gene targeting construct comprising the gene sequence and a selectable

          marker sequence,

   (ii)   introducing the targeting construct into a stem cell of a non-human animal,

   (iii)  introducing the non-human animal stem cell into a non-human embryo,

   (iv)   transplanting the embryo into a pseudopregnant non-human animal,

   (v)    allowing the embryo to develop to term,

   (vi)   identifying a genetically altered non-human animal whose genome comprises a

          modification of the gene sequence in both alleles,

   (vii)  breeding the genetically altered non-human animal of step (vi) to obtain a

          genetically altered non-human animal whose genome comprises a modification

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of the endogenous gene, wherein the disruption results in the non-human animal

exhibiting a predisposition to developing symptoms of Alzheimer's disease.


22. (new): A method of using the recombinant, non-human animal according to claim 21 for

diagnosing Alzheimer's disease in a subject, or determining whether a subject is at increased

risk of developing Alzheimer's disease, comprising

— determining, in a sample from the subject, a level or an activity of at least one gene

product selected from the group consisting of (i) a transcription product of a gene coding

for golgin-245, (ii) a translation product of a gene coding for golgin-245, and (iii) a

variant of the transcription or translation product, wherein the variant is SEQ ID NO: 2,

SEQ ID NO: 4, SEQ ID NO: 6, or SEQ ID NO: 8,

— determining, in a sample from the non-human animal, a level or an activity of at least one

gene product selected from the group consisting of (i) the transcription product, (ii) the

translation product, or (iii) the variant of the transcription or translation product, the level

or activity determined in the sample from the non-human animal constituting a reference

value representing Alzheimer's disease, and

— comparing (a) the level or the activity determined in the subject sample with (b) the

reference value representing Alzheimer's disease and, thereby, diagnosing Alzheimer's

disease in the subject or determining whether the subject is at increased risk of

developing Alzheimer's disease.


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23 (new): An assay screening for a modulator of Alzheimer's disease, wherein the modulator

modulates one or more substances selected from the group consisting of

(i) a gene coding for golgin-245,

(ii) a transcription product of a gene coding for golgin-245,

(iii) a translation product of a gene coding for golgin-245,

(iv) a variant of the one or more substances, the variant encoding SEQ ID NO: 2, SEQ

ID NO: 4, SEQ ID NO: 6, or SEQ ID NO: 8,

the method comprising:

(a) contacting a cell with a test compound;

(b) measuring the activity and/or level of the one or more substances in the

cell;

(c) measuring the activity and/or level of the one of more substances in a

control cell not contacted with the test compound followed by

. comparing the measured level and/or activity in the cell with the

measured level and/or activity in the control cell, wherein an alteration

between the compound activities and/or levels indicates that the test

compound is a modulator of Alzheimer's disease.


24 (new): A method of screening for a modulator of Alzheimer's disease, wherein the modulator

modulates one or more substances selected from the group consisting of

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(i)   a gene coding for golgin-245,

(ii)  a transcription product of a gene coding for golgin-245,

(iii) a translation product of a gene coding for golgin-245, and

(iv)  a variant of the one or more substances, the variant encoding SEQ ID NO: 2, SEQ
      ID NO: 4, SEQ ID NO: 6, or SEQ ID NO: 8,

the method comprising:

   (a)   administering a test compound to a test animal predisposed to
         developing, or having already developed symptoms of, Alzheimer's
         disease in respect of the one or more substances;

   (b)   measuring the activity and/or level of the one or more substances in the
         test animal;

   (c)   measuring the activity and/or level of the one or more substances in a
         matched control animal predisposed to developing, or having already
         developed symptoms of, Alzheimer's disease in respect to the one or more
         substances and to which matched control animal the test compound has not
         been administered;

   (d)   comparing the measured activity and/or level in the test animal with the
         measured activity and/or level in the matched control animal, wherein
         an alteration between the compound activities and/or levels indicates
         that the test compound is a modulator of Alzheimer's disease.

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25. (new): The method according to claim 24 wherein at least one of the test animal and the

control animal is a recombinant animal expressing the gene coding for golgin-245 or the

variant of golgin-245 under the control of a transcriptional control element, wherein the

transcriptional control element is not the native golgin-245 gene transcriptional control

element.

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